CLAIMS

What is claimed is:

1. A supply chain transaction network, comprising:

5   a customer maintenance system into which information pertaining to a work order

is entered including information that identifies a piece of equipment to be repaired and

one or more items expected to be used during a repair procedure;

          a customer agent server in communication with the customer maintenance system

which extracts the information pertaining to the scheduled maintenance activities from

10   the customer maintenance system to create an advance demand notice order that

identifies the items; and

          a distributor system in communication with the customer agent server which

responds to a receipt of the advance demand notice order to initiate a staging of the items

within the supply chain to meet an expected use of the items during the repair procedure.

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2. The supply chain transaction network as recited in claim 1, further comprising a

supplier system that cooperates with the distributor system by supplying into the supply

chain the items expected to be used during the repair procedure or replenishing within the

supply chain the items staged in response to the receipt of the advance demand notice.

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3. The supply chain transaction network as recited in claim 1, wherein the customer

maintenance system comprises a computerized maintenance management system.

4. The supply chain transaction network as recited in claim 1, wherein the customer maintenance system comprises an enterprise asset management system.

5. The supply chain transaction network as recited in claim 1, wherein the customer agent server comprises an intelligent agent that extracts the information from the customer maintenance system in response to a user entering or modifying a work order.

6. The supply chain transaction network as recited in claim 1, wherein the distributor system comprises an advance demand intelligent agent that accepts the advance demand notice order from the customer agent server and that uses the advance demand notice order to determine a fulfillment plan for the items.

7. The supply chain transaction network as recited in claim 1, wherein the distributor system comprises an intelligent agent that determines the probability that each item specified in the advance demand notice will be needed during the repair procedure for use in staging the items within the supply chain.

8. The supply chain transaction network as recited in claim 1, wherein the distributor system comprises an intelligent agent that determines sourcing alternatives for each item for use in staging the items or item alternatives within the supply chain.

9. The supply chain transaction network as recited in claim 1, further comprising a transportation agent system in communication with the distributor system that

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coordinates with the distributor system to assist in moving the items within the supply chain.

10. The supply chain transaction network as recited in claim 9, wherein the distributor system comprises an intelligent agent in communication with the transportation agent system that monitors movement of the items within the supply chain.

11. The supply chain transaction network as recited in claim 2, wherein the distributor system comprises an intelligent agent in communication with the supplier system that monitors movement of the items within the supply chain.

12. The supply chain transaction network as recited in claim 10, wherein the intelligent agent forms a corrective fulfillment plan if the intelligent agent determines that the items are not being moved within the supply chain as desired.

13. The supply chain transaction network as recited in claim 1, wherein the distributor system comprises an equipment knowledge base for use in determining the probability of need for each item for use in staging the items within the supply chain.

14. The supply chain transaction network as recited in claim 13, wherein the customer agent server extracts information from the customer maintenance system for populating the equipment knowledge base, the information being used in determining the probability of need of items specified in future work orders.

15. The supply chain transaction network as recited in claim 1, further comprising a collaborative network and wherein the distributor system comprises an intelligent agent for monitoring the collaborative network.

5   16. A supply chain transaction network comprising:

a customer agent server hosting a collection of intelligent customer agents for interfacing with and extracting information from one or more of a condition monitoring system, a computer maintenance management system and a procurement system;

a distributor agent server hosting a collection of intelligent distributor agents for

10   interfacing and communicating with one or more of a supply chain planning system, an inventory management system, a logistic management system, an order management system, an intelligent order fulfillment system, and an equipment knowledge base; and

an agent network manager and broker that routes messages between the distributor agent server and the customer agent server to effect a movement of items

15   within the supply chain.

17. The supply chain transaction network as recited in claim 16, wherein the agent network manager and broker comprises a brokerage status database that tracks messages passing through the agent network manager and broker.

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18. The supply chain transaction network as recited in claim 16, wherein at least one of the intelligent distributor agents accepts an advance demand notice that initiates movement of items within the supply chain.

19. The supply chain transaction network as recited in claim 18, wherein the movement of items within the supply chain is performed as a function of a probability of need for the items determined using information in the equipment knowledge base .

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20. The supply chain transaction network as recited in claim 16, wherein movement of items within the supply chain is performed as a function of a probability of need for the items determined using a probability of need provided by the customer.

10   21. The supply chain transaction network as recited in claim 16, further comprising a transportation agent server having transportation intelligent agents for interfacing and communicating with one or more transportation carrier systems to coordinate, via the agent network manager and broker, with the distributor intelligent agents to effect movement of items within the supply chain.

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22. The supply chain transaction network as recited in claim 1, wherein the customer maintenance system comprises a component or module of an enterprise resource planning (ERP) system.

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